

The issue of sales chasing, the illegal practice of changing assessments of recently sold properties incommensurately with unsold ones so as to create a misleading impression of assessment performance in the context of ratio studies, is a crucial one in assessment compliance monitoring. To test for it, the IAAO Standard on Ratio Studies 1999, which has been incorporated into Indiana law, provides at section 10.4 as follows: "...two ratio studies are performed, one using sales that occurred before the appraisal date, and one using sales after the appraisal date, both adjusted for date of sale as appropriate. Except for random sampling error, results of the two studies should be similar. Sales chasing is indicated if the results of the first study are consistently better than those from the second. In such a case, the second study is still valid; the first study should be rejected." LaPorte's study as submitted indicates (barely) passable performance measures. It is based on sales from 2004-2005, although previous submittal papers acknowledged that sales from 2006 had also been considered by the county in setting the assessments. Therefore sales from 2007 and 2008 were the only source not known to have been used in the setting of assessments and thus available as an independent check on the accuracy of those assessments per the standard quoted above.¹

An analysis of these later sales was undertaken as contemplated in the standard and as described further below. It was motivated by the fact that previous analyses of the county's data had clearly established that sold and unsold properties had been treated incommensurately, i.e. the county had obviously engaged in chasing sales. Subsequently, as a result of a re-trending order, revised assessments were produced, and some small fraction, though not all, of the incommensurate changes to property-characteristics data were reportedly reversed, but there is still reason to question whether the effects of sales chasing have been expunged. Unfortunately, as with student examinations, the previous test for sales chasing, having been given once, will no longer provide informative results if simply repeated because the tested party knows the test in advance.² Fortunately other tests for sales chasing, including the split-sample analysis described above, are also available and invaluable in such circumstances. Accordingly a ratio study was conducted using the later sales and the re-trended

¹ The later sales could conceivably have been chased as well, given the long delay in finalizing the assessments, but given the results described below it is unlikely that this occurred.

² The previous proof of sales chasing used a Mann-Whitney test of percentage changes in assessments of sold versus unsold parcels, one of the tests recommended for this purpose in the IAAO standard and Indiana law. Recall, however, that the ultimate objective of a test is to draw conclusions from the sample of sold properties (or fact issues) that will be applicable to the far larger majority of unsold properties (or educational objectives). Once a test is given it becomes obvious to the tested party how the sold properties (or test questions) can be manipulated to pass the test(s) even in the absence of remedying the larger problems of the unsold properties (or the holes in the student's familiarity with the larger body of knowledge).

assessments reported in the “workbook” dated January 5, 2009.³ The difference in the results of the two studies, the county’s and the split-sample test using later data as reported here, is striking. Thus the study submitted by the county should be rejected as provided by the standard and related Indiana law.

The analysis was conducted by first obtaining from the assessor’s office on January 13, 2009, a file of all sales from years 2007 and 2008. It was represented to contain essentially all 2007 sales and all but about 100 sales from 2008, i.e. those that had not yet been received from the auditor’s office. The file contained the data fields required by the state’s Sales Disclosure Form, including yes/no responses to all the questions intended to discover whether the sale should be disqualified as not being an open-market transaction indicative of market value. It also contained a field for special circumstances, in which notes were made about other parcels included in the transaction and about other factors that may tend to disqualify the sale as an indicator of market value. It did not include a field reporting the assessor’s final judgment of the sale’s validity since such judgments had reportedly not yet been made. There were, altogether, 8,723 records, including a half dozen from 2006. After all the editing described below, only 2,056 were used for the performance analysis, amounting to less than 24 percent of the total, a conservative number. The editing consisted of excluding all sales reported to have any pertinent yes/no flag, any mention of splits, new construction or other suggestive considerations in the text field, any duplicate sales of a given parcel, and any obvious data-entry blunder (e.g. one residential vacant lot reportedly sold for a price sale in excess of \$100,000,000). The editing process also entailed aggregating the assessed values of all the parcels involved in any given multi-parcel transaction in order to compare the total of their assessed values to the reported sale price. In addition to the logical edits, sales were also excluded on a statistical basis if the ratio of their assessment to sale price was extreme.⁴ There were 381 extreme ratios so excluded, over 15 percent of the sample, which would not have been allowed to be excluded under typical Indiana practice. This was done to give the county every

³ It was necessary to use the assessments reported in the workbook rather than those reported in the ratio study, of course, because the individual properties that sold in 2007-2008 differed from those that were reported in the ratio-study’s data set, which was limited to sales in 2004-2005. It is an unavoidable problem that, as reported previously, there are over 300 discrepancies between the assessments reported for all properties in the workbook and the assessments only for the properties that sold during 2004-2005, reported in the ratio study dated January 2, 2009. During these analyses it became clear that the assessments in the ratio study produce better performance results than those in the workbook where they differ, and that fact is one of the several motivations for the tests being reported here.

⁴ Extremes are defined as any value that differs from the nearer quartile by three times the interquartile range. Extremes were eliminated on two bases: the raw ratios of assessment to time-adjusted sale price and the logarithms of such ratios. Both procedures are recognized in the relevant professional literature. Eliminating extreme ratios per se tends to preferentially eliminate high ratios ignoring lower ones, while using logarithms of the ratios eliminates percentage errors equally. The time adjustment used was derived from the housing price index published for the Michigan City/LaPorte County statistical area by the Office of Federal Housing Enterprise Oversight.

reasonable benefit of the doubt about the editing process. As noted, Indiana generally discourages the use of arbitrary trimming, but the results reported below would have been much worse in its absence.

As shown in Table 1, the number of combinations of township and property class that failed the state's criteria outnumbered the ones passing by a margin of 77 to 17. Results highlighted in green indicate that the result meets state performance criteria; those with light red highlights are at least nominal failures (confidence intervals are also provided if they are thought to be necessary for definitive testing); and those in yellow are results for sample sizes of less than five, and are therefore unreliable.

Table 2, which is linked to Table 1 by line numbers, provides a list of all the parcel identifiers, sale prices, assessments, and other relevant facts that underlie the statistics highlighted in Table 1. The sales underlying each line of Table 1 are then sorted by the magnitude of the difference between the assessed value and the sale price. As can be seen there, although some of the subsequent sale prices are reasonably close to the assessments, many are not, suggesting that the data that underlie the assessments are inaccurate and do not constitute an adequate basis for the kind of ratio-based assessment trending contemplated by Indiana law.

Even after giving the county every reasonable benefit of the doubt during the data screening process, the results obtained in this split-sample analysis of the county's assessment ratios for 2006 are far from comparable to those reported in the county's own study. This suggests that the county's latest study, like previous ones submitted by the county in this process, remains contaminated by sales chasing. As stipulated by the ratio study standard and by Indiana law, the county's most recent ratio study should, therefore, be rejected.